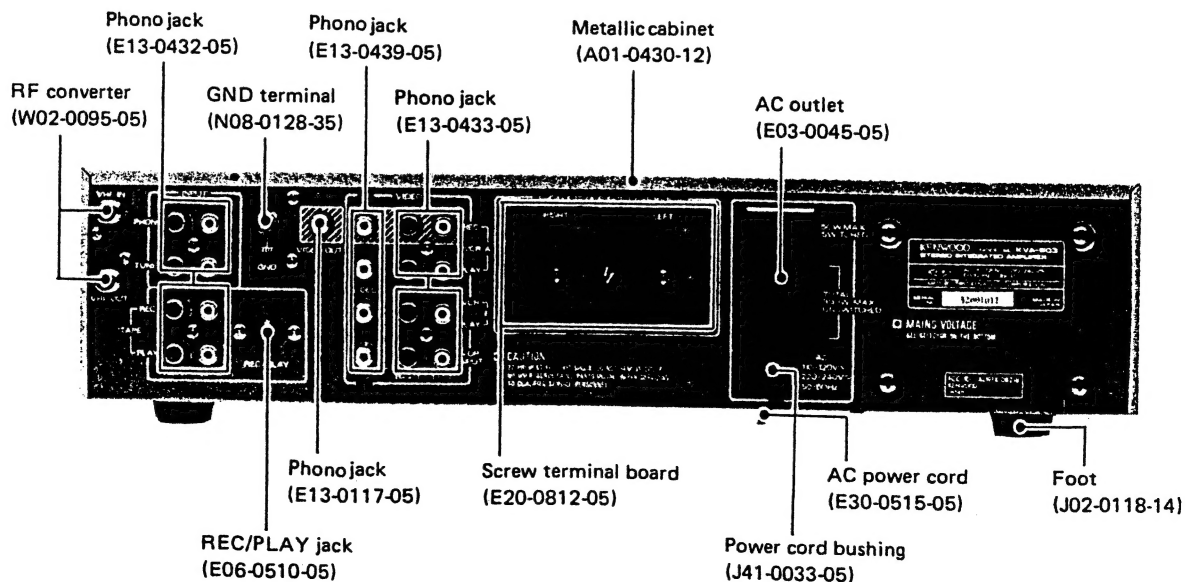
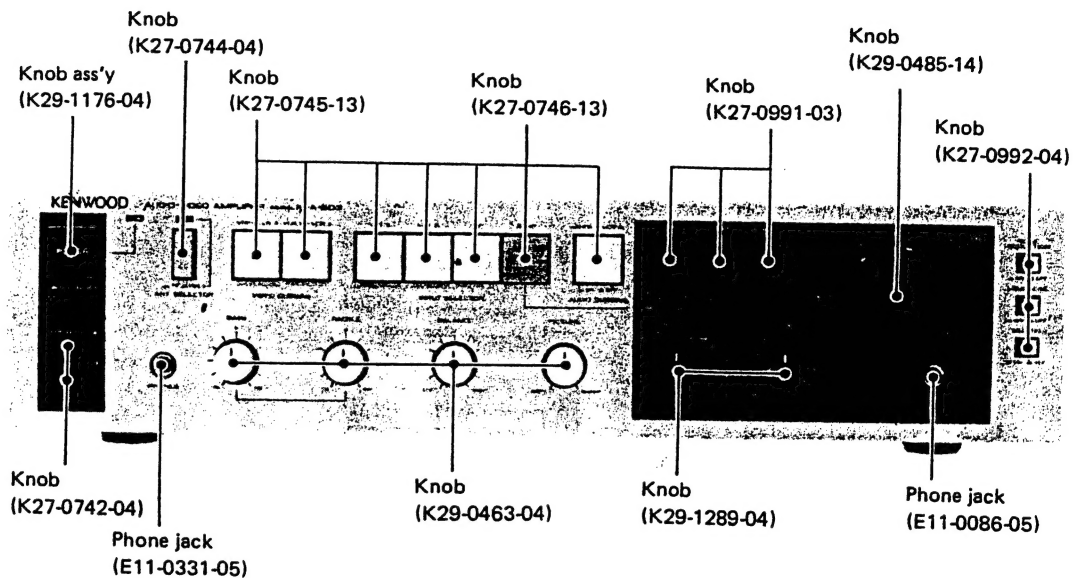


KENWOOD

KVA-503

AUDIO-VIDEO AMPLIFIER



ADJUSTMENT/REGLAGE/ABGLEICH

BIAS CURRENT ADJUSTMENT (IDLE)

1. Turn the volume knob fully counterclockwise.
2. Connect a DC voltmeter to both pins of R29 (R30) of the AUDIO AMP (X09-1800-83). (See the figure below.)
3. Turn the power on and wait 5 minutes.
4. Adjust VR5 (VR6) so that the DC voltmeter reads 18 ~ 22 mV

Note:

Since a heat pipe is used in the heat radiator of the KVA-503, be sure that the unit is level when making the adjustment.

RÉGLAGE DU COURANT DE POLARISATION (IDLE)

1. Tourner le réglage du volume à fond de course vers la gauche.
2. Relier un voltmètre pour courant continu aux deux broches du R29 (R30) de AUDIO AMP (X09-1800-83). (Se reporter à l'illustration ci-dessous.)
3. Mettre le circuit sous tension et attendre cinq minutes.
4. Régler le VR5 (VR6) de façon que le voltmètre indique 18 à 22 mV.

Remarque:

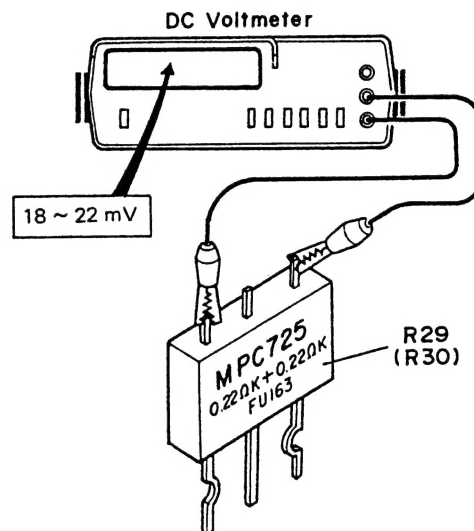
Etant donné qu'une conduite de chaleur est incluse dans le radiateur du KVA-503, s'assurer que l'appareil repose sur une surface plane avant de procéder au réglage.

VORSPANNUNGSSTROMEINSTELLUNG (IDLE)

1. Den Lautstärkesteller ganz nach links drehen.
2. Einen Gleichspannungsmesser an beide Stifte von R29 (R30) des AUDIO AMPES (X09-1800-83) anschließen. (Siehe nachstehende Zeichnung.)
3. Die Stromversorgung einschalten und 5 Minuten warten.
4. VR5 (VR6) so einstellen, daß der Gleichstrommesser 18 ~ 22 mV anzeigt.

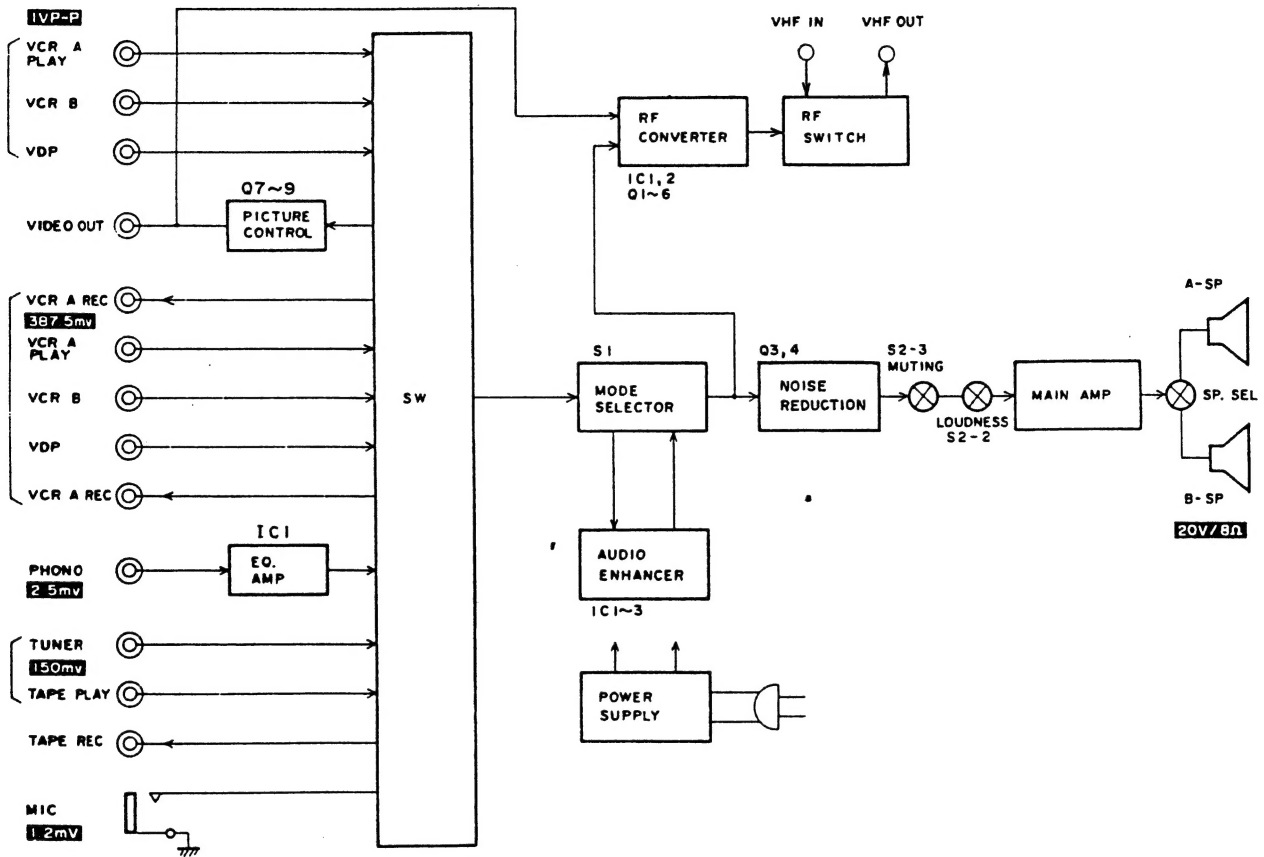
Hinweis:

Da im Wärmestrahler des KVA-503 eine Heat Pipe verwendet wird, Sollte man beim Einstellen unbedingt auf waagerechte Stellung des Gerätes achten.



BLOCK DIAGRAM

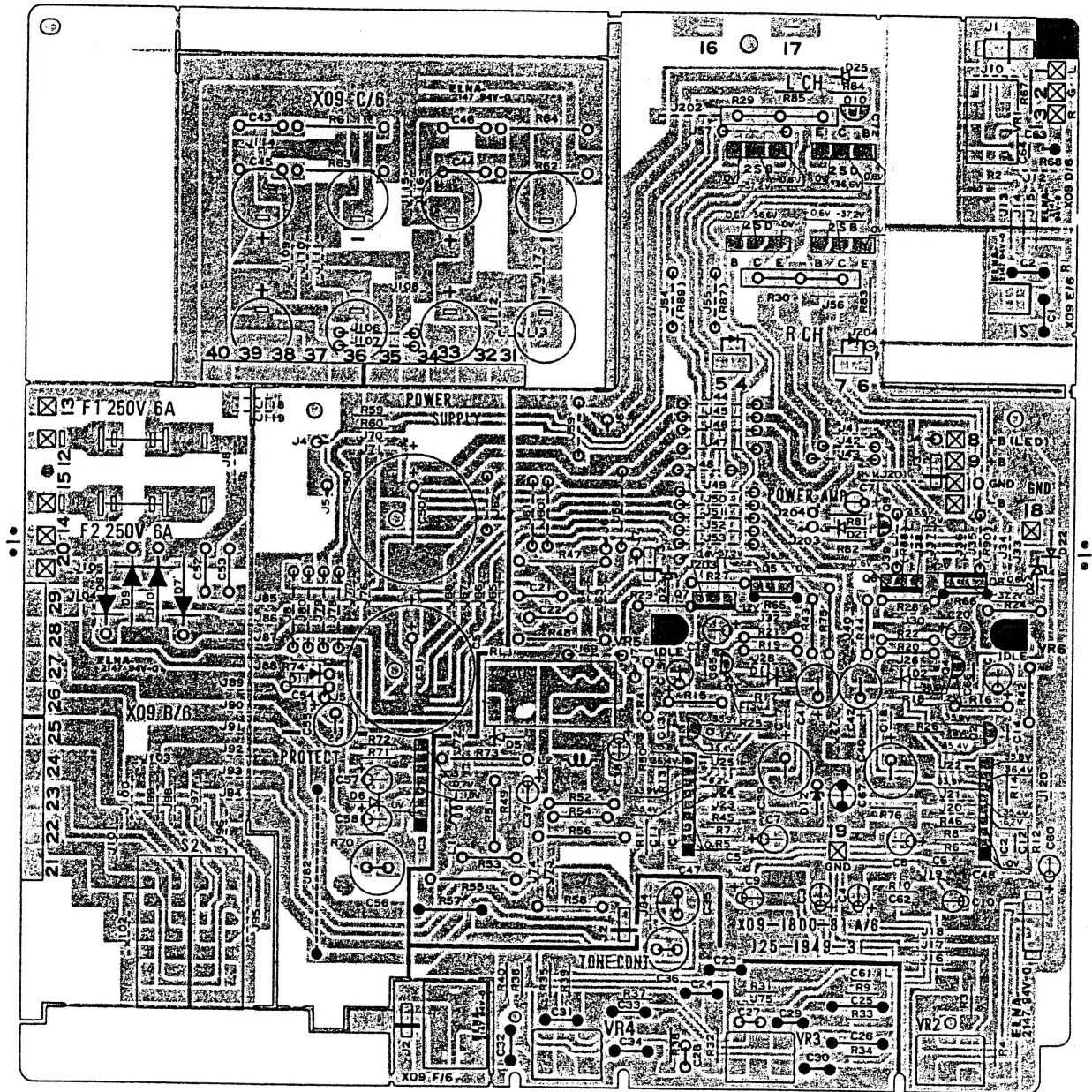
BLOCK DIAGRAM



VA-503

PC BOARD

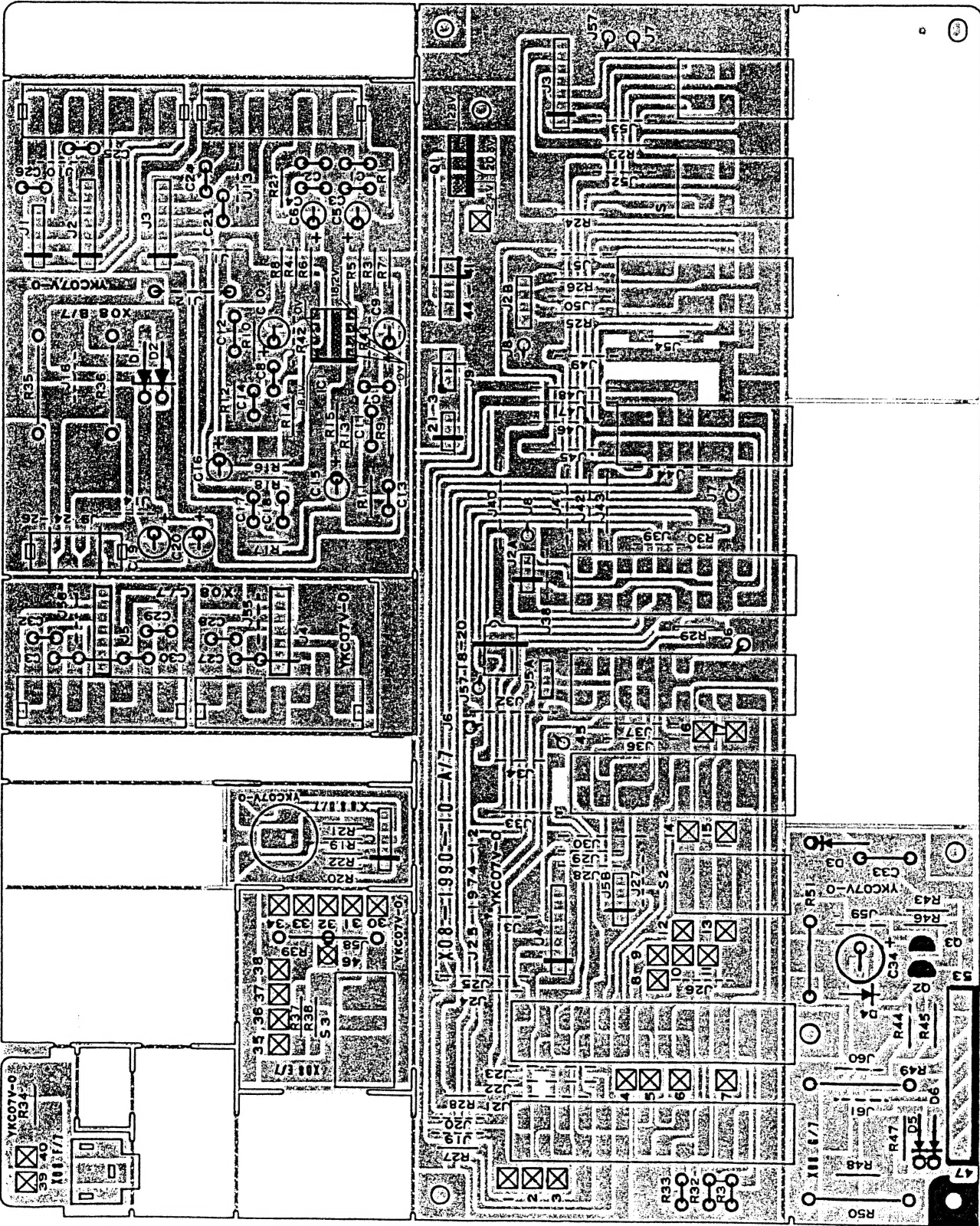
MAIN AMP (X09-1800-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors.
The pc board drawing is viewing from the side easy to check.

PC BOARD

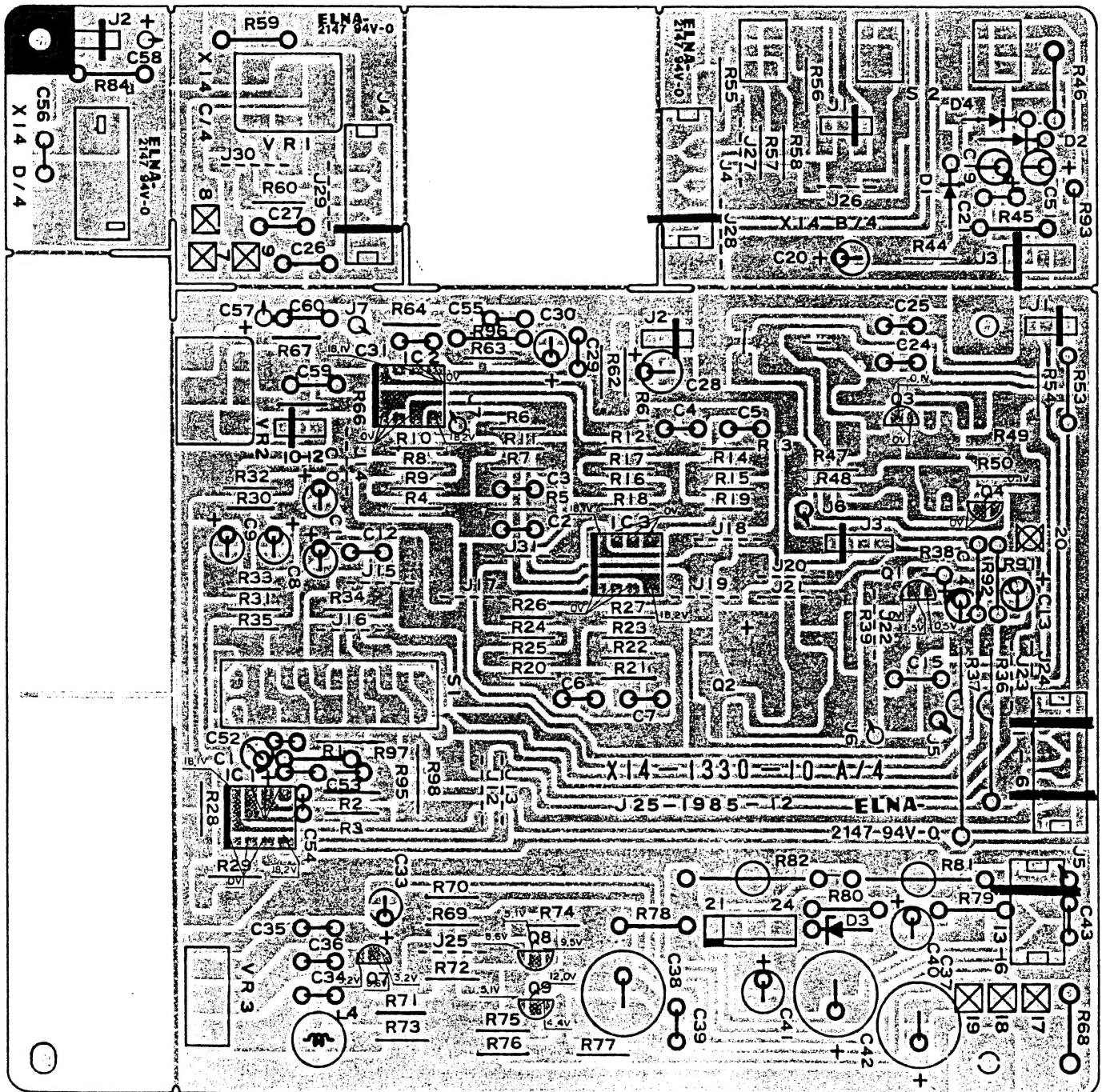
CONTROL (X08-1990-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewing from the side easy to check.

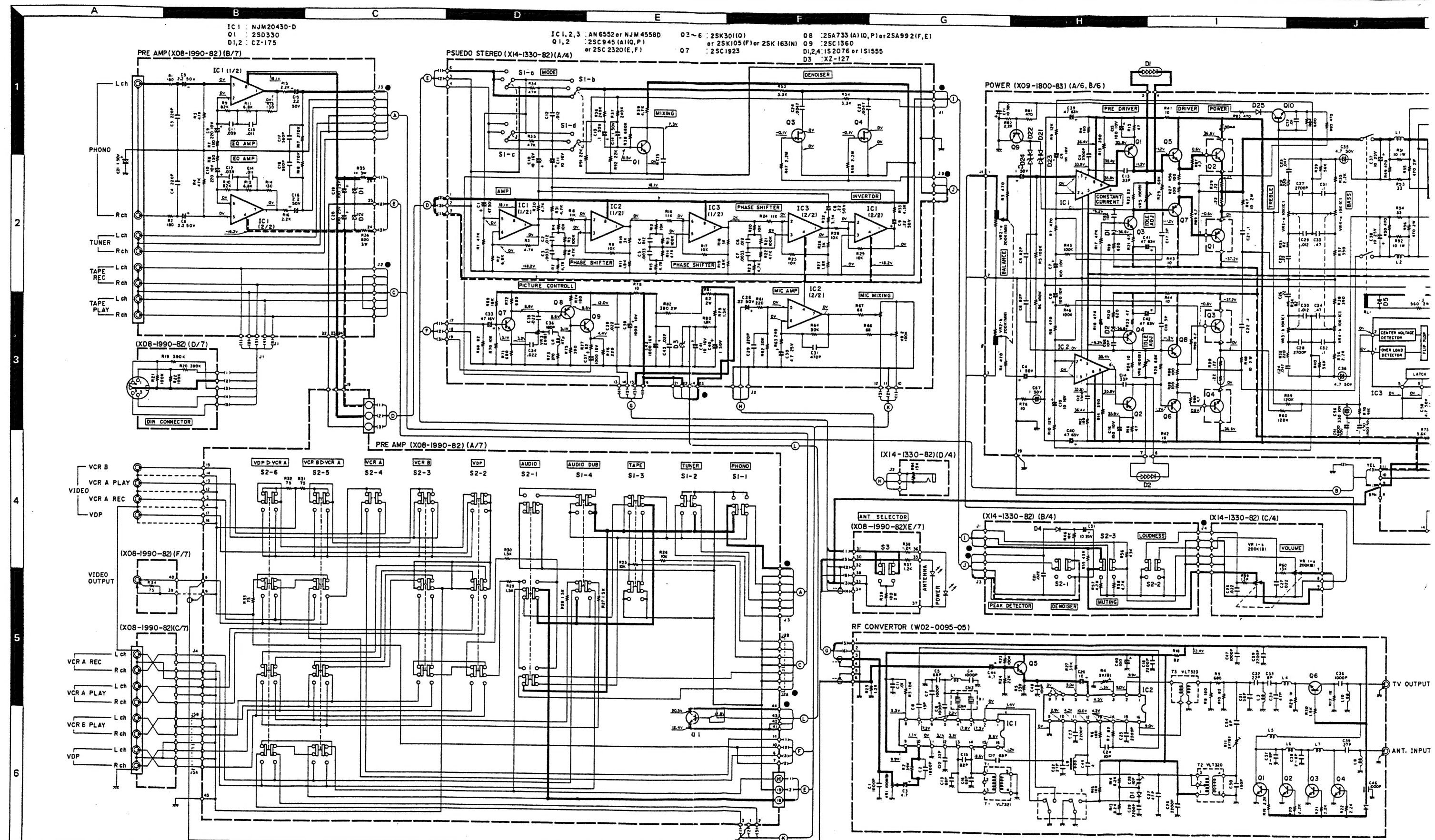
PC BOARD

PSEUDO STEREO (X14-1330-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors.
The pc board drawing is viewing from the side easy to check.

AUDIO-VIDEO AMPLIFIER



2SA733
2SA992
2SC1360
2SC1923
2SC2320
2SC945

2SA1110
2SA899
2SC2590

2SD330

2SA1227
2SC2987

2SK 105
2SK 163

NJM2043D-D
NJM4558D

AN7060

μPC1237H

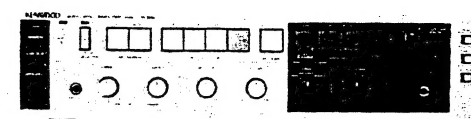
AN6552

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec mètre à haute impédance sans signal d'ent valeurs peuvent différer légèrement du fait c tions inhérentes aux appareils et aux instrur mesure individuels.

AUDIO-VIDEO AMPLIFIER

KVA-503



SPECIFICATIONS

65 watts* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.05% total harmonic distortion.

Dynamic power at 8 ohms	230W
Total harmonic distortion (20 Hz to 20,000 Hz)	0.05% at rated power into 8 ohms
TUNER input to SPEAKER output	0.03% at rated power into 8 ohms
Intermodulation distortion (60 Hz : 7 kHz = 4 : 1)	0.03% at rated power into 8 ohms
Damping factor (SPEAKER A)	300 at 100 Hz, 8Ω
Frequency response	8 Hz to 80 kHz, -3 dB
Speaker impedance	Accept 4 ohms to 16 ohms

Input sensitivity/impedance	2.5 mV/47 kohms
Phono	150 mV/47 kohms
Tuner	200 mV/47 kohms
Tape	200 mV/47 kohms
Mic	1.2 mV/10 kohms
Signal to noise ratio (IHF, A)	81 dB for 2.5 mV input
Phono	100 dB
Tuner, Tape	100 dB
Mic	60 dB

Maximum input level for phono	170 mV (RMS), T.H.D. 0.03% at 1,000 Hz
Output level/impedance	150 mV/2 kohms
Tape REC (Pin)	150 mV/2 kohms
Frequency response for phono	RIAA standard curve ±0.3 dB (30 Hz to 20 kHz)
Tone control	±10 dB at 100 Hz
Bass	±10 dB at 10 kHz
Treble	±10 dB at 10 kHz
Loudness control	+10 dB at 100 Hz (at -30 dB VOLUME Level)

VIDEO	
Video input sensitivity/impedance	1.0V pp/75 ohms unbalanced
VCR A, VCR B, VDP	
Video signal to noise ratio	62 dB
VCR A, VCR B, VDP - VIDEO OUT	
Video frequency response	5 Hz to 6 MHz -2 dB
VCR A, VCR B, VDP - VIDEO OUT	
Audio input sensitivity/impedance	-6 dBs/47 kohms unbalanced
VCR A, VCR B, VDP	

Audio output level	-6 dBs/47 kohms unbalanced
VCR REC (Pin)	
Audio signal to noise ratio	100 dB
VCR A, VCR B, VDP - VCR REC (Pin)	
VCR A, VCR B, VDP - SPEAKER	90 dB
Audio frequency response	250 kHz -3 dB
VCR A, VCR B, VDP - VCR REC (Pin)	
VCR A, VCR B, VDP - SPEAKER	70 kHz -3 dB
VHF OUT signal	Channel 3 or 4 switchable (Preset to channel 3 when shipped)

GENERAL	
Power consumption	380W
A.C. outlet	Switched 1, Unswitched 2
Dimensions	W 440 mm (17-5/16") H 109 mm (4-9/32") D 336 mm (13-7/32")
Net weight	8.1 kg (17.8 lb)

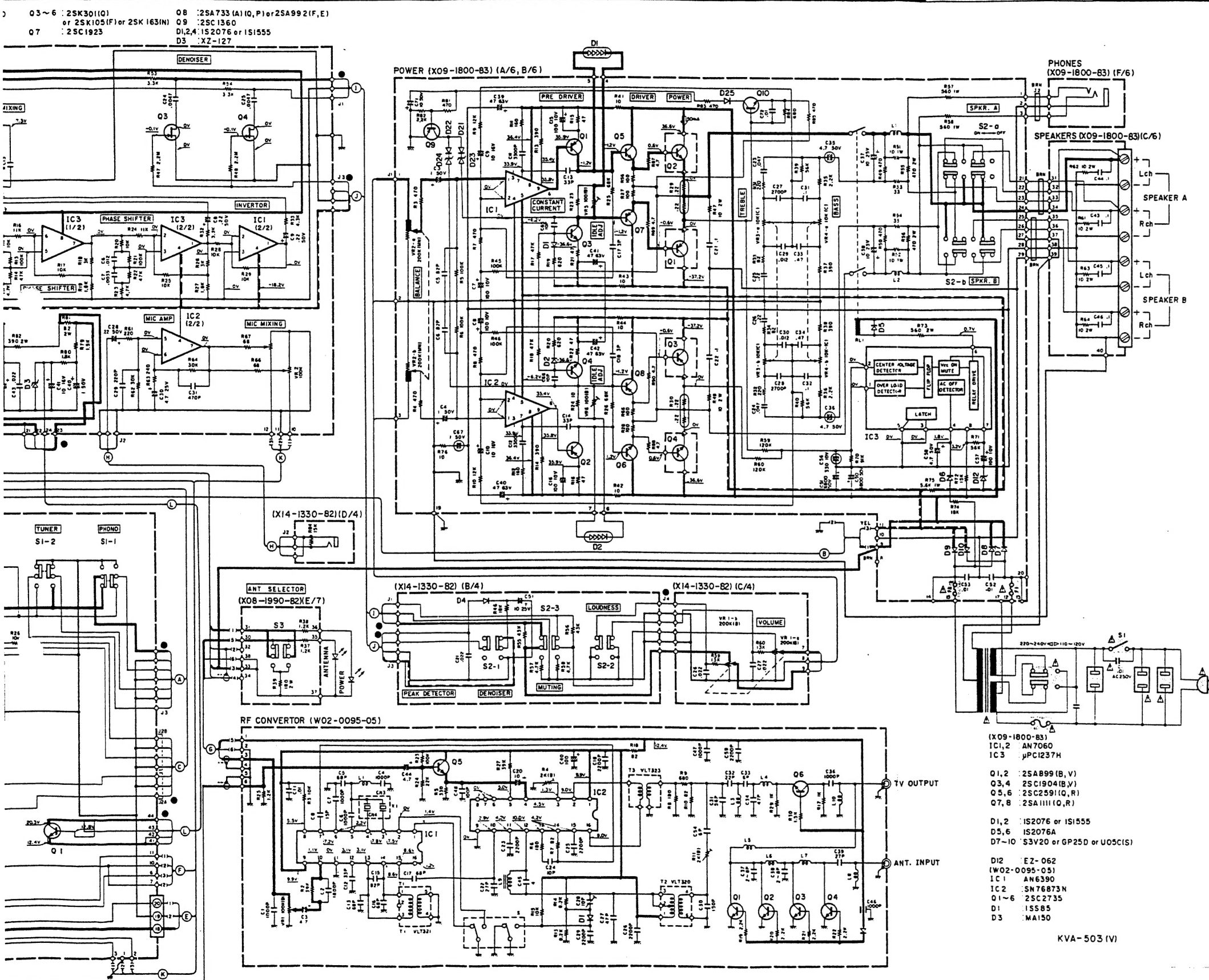
* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



- (X09-1800-B3)
IC1,2 AN7060
IC3 µPC1237H
- Q1,2 2SA899(B,V)
Q3,4 2SC1904(B,V)
Q5,6 2SC2591(Q,R)
Q7,8 2SA1111(Q,R)
- D1,2 1S2076 or 1S1555
D5,6 1S2076A
D7-10 3SV20 or GP250 or U05C(S)
- D12 EZ-062
(W02-0095-05)
IC1 AN6390
IC2 SN76873N
Q1-6 2SC2735
D1 1S585
D3 MA150

KVA-503 (V)

AN7060

µPC1237H

AN6552

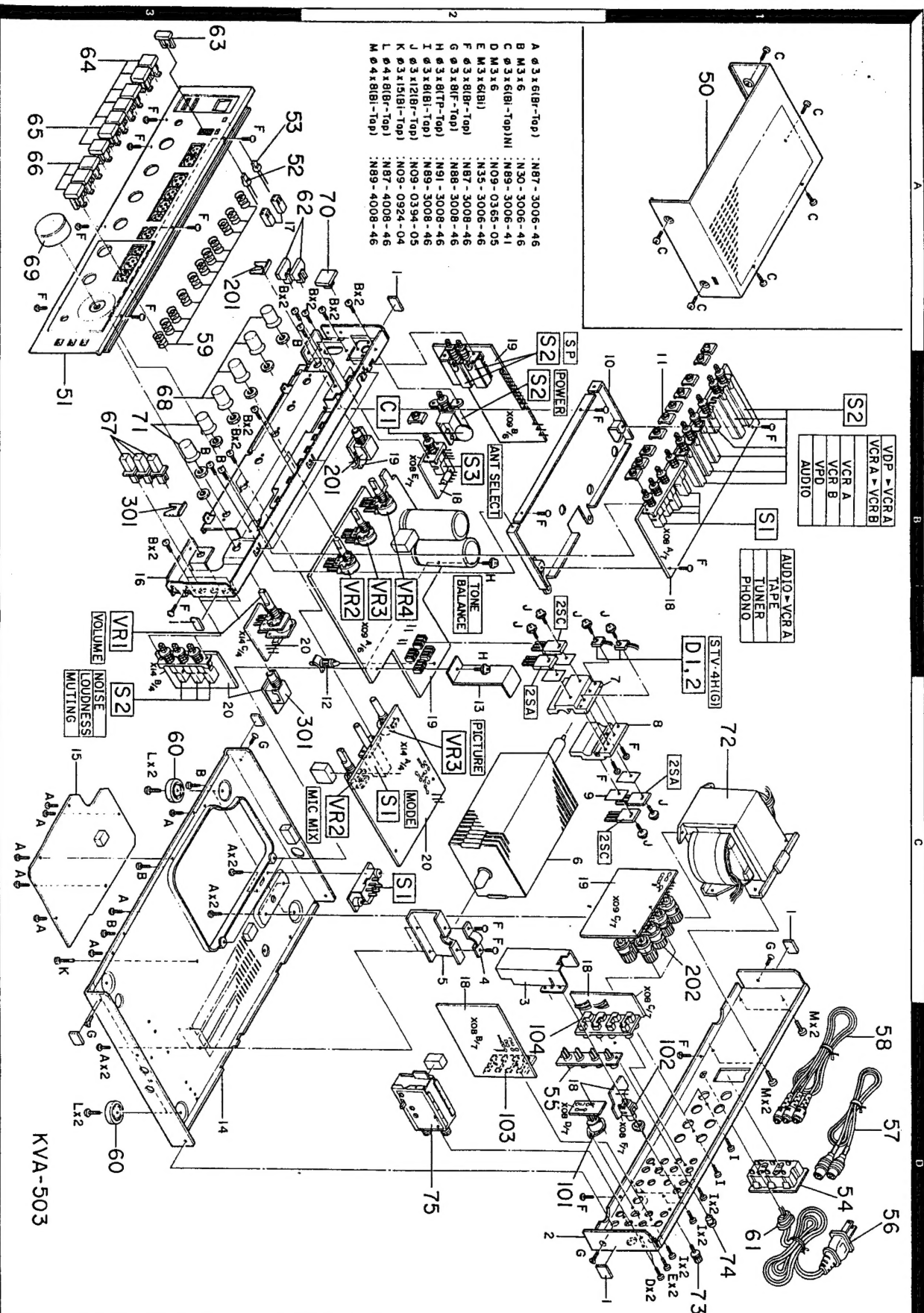
DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

EXPLODED VIEW

(Exploded view No. 1 ~ 20 are not supplied.)



PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
C13 ,14 C17 ,18			CO93M1H113J CK45B1H561K	MYLAR 0.011UF J CERAMIC 560PF K		
101 102 103 104	2D 1D 2D 2D	*	E06-0510-05 E13-0117-05 E13-0432-05 E13-0433-05	REC/PLAY JACK PHONE JACK PHONE JACK PHONE JACK		
R35 R36 R39		*	RS14GB3F102J RS14GB3F821J RS14GB3D181J	FL-PR00F RS 1K J 3F FL-PR00F RS 820 J 3F FL-PR00F RS 180 J 3D		
S1 S2 S3	1B 1B 2B	*	S42-4022-05 S42-6012-05 S40-2146-05	MULTI. PUSH SW(AUDIO SELECTOR) MULTI. PUSH SW(VIDEO SELECTOR) PUSH SWITCH (ANT SELECTOR)		
D1 ,2 IC1 Q1		*	RD18F(B2) NJM2043D-D 2SD330	ZENER DIODE IC TRANSISTOR		
AUDIO (X09-1800-82)						
C3 ,4 C5 ,6 C11 ,12 C13 ,14 C17 ,18		*	CE04AW1H010M CC45SL1H820J CK45B1H332K CC45SL1H330J CC45SL1H030C	LL-ELEC 1UF 50WV CERAMIC 82PF J CERAMIC 0.0033UF K CERAMIC 33PF J CERAMIC 3PF C		
C21 ,22 C23 ,24 C25 ,26 C27 ,28 C29 ,30			CO93M1H104K CO93M1H473J CO93M1H224J CO93M1H272J CO93M1H123J	MYLAR 0.1UF K MYLAR 0.047UF J MYLAR 0.22UF J MYLAR 0.0027UF J MYLAR 0.012UF J		
C31 ,32 C33 ,34 C35 ,36 C43 ,46 C50 ,51		*	C91-0608-05 C91-0609-05 CE04BW1H4R7M CO93M1H104K C90-0538-05	MF 0.1UF J MF 0.47UF J NP-ELEC 4.7UF 50WV MYLAR 0.1UF K ELECTRO 7500UF 56WV		
C52 ,53 C56 C58 C65 ,66 C67		*	CK45E2H103P CE04BW1A331M CE04W1H4R7M CC45SL1H100D CE04BW1H010M	CERAMIC 0.01UF P NP-ELEC 330UF 10WV ELECTRO 4.7UF 50WV CERAMIC 10PF D NP-ELEC 1UF 50WV		
C72			CK45F1H103Z	CERAMIC 0.01UF Z		
201 202	3A,2B 1C		E11-0331-05 E20-0812-05	PHONE JACK SCREW TERMINAL BOARD(SPEAKERS)		
△ F1 ,2			F05-6021-05	FUSE		
-			J13-0041-05	FUSE CLIP		
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
R15 ,16 R19 ,20 R21 ,22 R23 ,24 R27 ,28			RD14GB2E470J RD14GB2E621J RD14GB2E470J RD14GB2E270J RD14GB2E101J	FL-PR00F RD 47 J 2E FL-PR00F RD 620 J 2E FL-PR00F RD 47 J 2E FL-PR00F RD 27 J 2E FL-PR00F RD 100 J 2E		
R29 ,30 R41 ,44 R47 ,48			R90-0187-05 RD14GB2E100J RS14GB3D100JMA	MULTI-COMP 0.22X2 K 3H FL-PR00F RD 10 J 2E FL-PR00F RS 10 J 3D		

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R51 ,52 R53 ,54 R55 ,56 R57 ,58 R61 -64			RS14GB3A100JMA RD14GB2E330J RS14GB3D471JMA RS14GB3A561JMA RS14GB3D100JMA	FL-PROOF RS 10 J 3A FL-PROOF RD 33 J 2E FL-PROOF RS 470 J 3D FL-PROOF RS 560 J 3A FL-PROOF RS 10 J 3D		
R65 ,66 R73 R75 R87 -90 VR2	2B	*	RD14GB2E101J RS14GB3D561JMA RS14GB3A562JMA RD14GB2H4R7J RD6-5086-05	FL-PROOF RD 100 J 2E FL-PROOF RS 560 J 3D FL-PROOF RS 5.6K J 3A FL-PROOF RD 4.7 J 2H POTENTIOMETER 200K (BALANCE)		
VR3 ,4 VR5 ,6	2B	*	RD6-3040-05 R12-0077-05	POTENTIOMETER 10K (TONE) TRIMMING POT. 100 (BIAS)		
RL1 S2	2B	*	SS1-4040-05 S42-2068-05	MAGNETIC RELAY MULTIPLE PUSH SW (SPEAKERS)		
D1 ,2 D1 ,2 D5 ,6 D7 -10 D7 -10			1S1555 1S2076 1S2076A GP25DL S3V20	DIODE DIODE DIODE DIODE DIODE		
D7 -10 D12 D21 ,22 D23 ,24 D25		*	U05C(S) RD6. 2J(B2) 1S2076A RD24E(B4) 1S2076A	DIODE ZENER DIODE DIODE ZENER DIODE DIODE		
IC1 ,2 IC3 Q1 ,2 Q3 ,4 Q5 ,6		*	AN7060 UPC1237H 2SA899(B,V) 2SC1904(B,V) 2SC2590(Q,R)	IC IC TRANSISTOR TRANSISTOR TRANSISTOR		
Q7 ,8 Q9 Q10			2SA1110(Q,R) 2SA733(A)(Q,P) 2SC945(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR		
PSEUDO STEREO (X14-1330-82)						
C2 C3 C4 C5 C6			CQ93M1H123K CQ93M1H332K CQ93M1H123K CQ93M1H332K CQ93M1H123K	MYLAR 0.012UF K MYLAR 0.0033UF K MYLAR 0.012UF K MYLAR 0.0033UF K MYLAR 0.012UF K		
C7 C12 C15 C24 ,25 C26 ,27			CQ93M1H332K CQ93M1H123K C91-0609-05 CQ93M1H472K CQ93M1H223K	MYLAR 0.0033UF K MYLAR 0.012UF K MF 0.47UF J MYLAR 0.0047UF K MYLAR 0.022UF K		
C28 C29 C31 C34 ,35 C36			CE04AW1HR22M CC45SL1H221J CK45B1H471K CK45F1H223Z CC45SL1H181J	LL-ELEC 0.22UF 50WV CERAMIC 220PF J CERAMIC 470PF K CERAMIC 0.022UF Z CERAMIC 180PF J		
C39 C43			CK45F1H223Z CK45F1H223Z	CERAMIC 0.022UF Z CERAMIC 0.022UF Z		
301 L4	3B,2C	*	E11-0086-05 L40-4705-25	PHONE JACK SMALL FIXED INDUCTOR		

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KVA-503

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KVA-503 (UNIT)						
50	1A		A01-0430-12	METALLIC CABINET		
51	3B	*	A20-3539-03	PANEL ASSY		
-			B46-0094-03	WARRANTY CARD		
-			B46-0095-03	WARRANTY CARD		
-		*	B50-4770-00	INSTRUCTION MANUAL		
-			B59-0092-00	SERVICE DIRECTORY		
52	2A		B30-0201-05	LED		
53	2A		B30-0378-05	LED		
△ C1	2B		C91-0023-05	CERAMIC 0.01UF AC250V		
△ 54	1D		E03-0045-05	AC OUTLET		
55	2D		E13-0439-05	PHONE JACK		
△ 56	1D		E30-0515-05	AC POWER CORD		
57	1D		E30-0714-15	CORD WITH PLUG		
58	1D		E30-0734-05	AUDIO CORD (BUILT-IN RESISTOR)		
59	3B		G01-0434-04	COMPRESSION SPRING		
-		*	H01-4795-04	ITEM CARTON CASE		
-			H10-1602-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-1603-12	POLYSTYRENE FOAMED FIXTURE		
-			H12-0090-04	PACKING FIXTURE		
-			H20-0452-04	PROTECTION COVER		
-			H21-0609-04	PROTECTION SHEET		
-			H25-0078-04	PROTECTION BAG		
60	3C, 3D		J02-0118-14	FOOT		
△ 61	1D		J41-0033-05	POWER CORD BUSHING		
62	2A		K27-0742-04	KNOB (BUTTON) SPEAKERS		
63	3A		K27-0744-04	KNOB (BUTTON) ANTENNA		
64	3A		K27-0745-13	KNOB (BUTTON) SQUARE, SILVER		
65	3A		K27-0746-13	KNOB (BUTTON) SQUARE, BRG		
66	3A	*	K27-0991-03	KNOB (BUTTON) SQUARE, BLK		
67	3B	*	K27-0992-04	KNOB (BUTTON) MUTE, LOUD, NOISE		
68	3B		K29-0463-04	KNOB TONE, BAL, PIC		
69	3A		K29-0485-14	KNOB VOLUME		
70	2A		K29-1176-04	KNOB ASSY POWER		
71	3B	*	K29-1289-04	KNOB MODE, MIC		
△ 72	1C	*	L01-3135-05	POWER TRANSFORMER		
73	1D		N08-0128-35	BINDING POST (GND)		
74	1D		N29-0053-05	PUSH RIVET		
△ S1	2C		S31-2053-05	SLIDE SWITCH (POWER TYPE)		
△ S2	2B		S40-1022-05	PUSH SWITCH (POWER TYPE)		
D1 .2	1B		STV-4H(G)	VARISTOR		
Q1 .3	1C, 2C	*	2SA1227(R, O)	TRANSISTOR		
Q2 .4	2B, 2C	*	2SC2987(R, O)	TRANSISTOR		
75	2D		W02-0095-05	RF CONVERTER		
PRE AMP (X08-1990-82)						
C3 .4			CC45SL1H221J	CERAMIC 220PF J		
C5 .6			CE04AW1H2R2M	LL-ELEC 2.2UF 50WV		
C11 .12			C093M1H393J	MYLAR 0.039UF J		

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R78			RD14GB2E100J	FL-PROOF RD 10 J 2E		
R79		*	RD14GB2E152J	FL-PROOF RD 1.5K J 2E		
R80		*	RD14GB2E182J	FL-PROOF RD 1.8K J 2E		
R81			RS14GB3D820J	FL-PROOF RS 82 J 3D		
R82			RS14GB3D391J	FL-PROOF RS 390 J 3D		
VR1	3B	*	RD6-5083-05	POTENTIOMETER 200K (VOLUME)		
VR2	2C	*	RD6-5082-05	POTENTIOMETER 100K (MIC MIX)		
VR3	2C	*	RD1-1017-05	POTENTIOMETER 2K (PICTURE)		
S1	2C	*	S29-4011-15	ROTARY SLIDE SWITCH (MODE)		
S2	3C	*	S42-3054-05	MULTIPLE PUSH SW (MUTE, LOUD)		
D3			RD13E(B2)	ZENER DIODE		
D4			1S1555	DIODE		
D4			1S2076	DIODE		
IC1 -3			AN6552	IC		
IC1 -3			NJM4558D	IC		
Q1			2SC2320(E,F)	TRANSISTOR		
Q1			2SC945(A)(Q,P)	TRANSISTOR		
Q3 ,4			2SK105(F)	FET		
Q3 ,4			2SK163(N)	FET		
Q7			2SC1923	TRANSISTOR		
Q8			2SA733(A)(Q,P)	TRANSISTOR		
Q8			2SA992(F,E)	TRANSISTOR		
Q9		*	2SC1360	TRANSISTOR		

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